

IN THE CLAIMS

Please substitute claims 1-50 with the following:

1-4. (Cancelled).

5. (Currently Amended) ~~A The method for classifying signals according to claim 3,~~
~~wherein comprising:~~

dividing an input signal into blocks having a predetermined time length;

extracting one or more than one characteristic quantities of a signal attribute from the
signal of each block; and

classifying the signal of each block into a category according to the characteristic
quantities thereof, wherein said signal of each block is classified into any of the categories
formed on the basis of types of signal sources, and wherein said signal of each block is classified
into any of the categories formed on the basis of types structures that signals may have and do
not depend on the types of signal sources, wherein

said input signal is an audio signal; and

the categories formed on the basis of structures that signals may have and do not depend on the types of signal sources for classifying the audio signal of each block include one or more than one of a silence structure where no significant sound exists in the block, a single sound source structure where only a sound related to a single sound source exists in the block, a double sound source structure where sounds related respectively to two sound sources exist in the block, a sound source change structure where a sound source including silence is switched only for one in the block, a multiple sound source change structure where a plurality of sound sources are switched simultaneously in the block, a sound source partial change structure where part of a

plurality of sound sources are switched in the block and an extra structure pattern where none of the above patterns is applicable and are used for categorical classification based on the structures.

6-12. (Cancelled).

13. (Currently Amended) ~~An~~ The apparatus for classifying signals ~~according to claim 11, wherein comprising:~~

a blocking means for dividing an input signal into blocks having a predetermined time length;

a feature extracting means for extracting one or more than one characteristic quantities of a signal attribute from the signal of each block; and

a categorical classifying means for classifying the signal of each block into a category according to the characteristic quantities thereof, wherein said categorical classifying means classifies said signal of each block into any of the categories formed on the basis of types of signal sources, and wherein said categorical classifying means classifies said signal of each block into any of the categories formed on the basis of types of structures that signals may have and do not depend on the types of signal sources, wherein

said input signal is an audio signal; and

the categories formed on the basis of structures that signals may have and do not depend on the types of signal sources for classifying the audio signal of each block include one or more than one of a silence structure where no significant sound exists in the block, a single sound source structure where only a sound related to a single sound source exist in the block, a double sound source structure where sounds related respectively to two sound sources exist in the block,

a sound source change structure where a sound source including silence is switched only for once in the block, a multiple sound source change structure where a plurality of sound sources are switched simultaneously in the block, a sound source partial change structure where part of a plurality of sound sources are switched in the block and an extra structure pattern where none of the above patterns is applicable and are used for categorical classification based on the structures.

14-20. (Cancelled).

21. (Currently Amended) A ~~The~~ method for generating descriptors according to ~~claim 19, wherein comprising:~~

dividing an input signal into blocks having a predetermined time length;

extracting one or more than one characteristic quantities of a signal attribute from the signal of each block;

classifying the signal of each block into a category according to the characteristic quantities thereof, wherein said signal of each block is classified into any of the categories formed on the basis of types of signal sources, and wherein said signal of each block is classified into any of the categories formed on the basis of types of structures that signals may have and do not depend on the types of signal sources; and

generating a descriptor for the signal according to the category of classification thereof, wherein

said input signal is an audio signal;

the categories formed on the basis of structures that signals may have and do not depend on the types of signal sources for classifying the audio signal of each block include one or more

than one of a silence structure where no significant sound exists in the block, a single sound source structure where only a sound related to a single sound source exists in the block, a double sound source structure where sounds related respectively to two sound sources exists in the block, a sound source change structure where a sound source including silence is switched only for once in the block, a multiple sound source change structure where a plurality of sound sources are switched simultaneously in the block, a sound source partial change structure where part of a plurality of sound sources are switched in the block and an extra structure pattern where none of the above patterns is applicable and are used for categorical classification based on the structures; and

a descriptor is generating according to the categorical classification based on the structures.

22-28. (Cancelled).

29. (Currently Amended) An ~~The~~ apparatus for generating descriptors ~~according to claim 27, wherein comprising:~~

a blocking means for dividing an input signal into blocks having a predetermined time length;

a feature extracting means for extracting one or more than one characteristic quantities of a signal attribute from the signal of each block;

a categorical classifying means for classifying the signal of each block into a category according to the characteristic quantities thereof, wherein said categorical classifying means classifies said signal of each block into any of the categories formed on the basis of types of signal sources, and wherein said categorical classifying means classifies said signal of each block

into any of the categories formed on the basis of types of structures that signals may have and do not depend on the types of signal sources; and

a descriptor generating means for generating a descriptor for the signal according to the category of classification thereof, wherein

said input signal is an audio signal;

the categories formed on the basis of structures that signals may have and do not depend on the types of signal sources for classifying the audio signal of each block include one or more than one of a silence structure where no significant sound exists in the block, a single sound source structure where only a sound related to a single sound source exists in the block, a double sound source structure where sounds related respectively to two sound sources exist in the block, a sound source change structure where a sound source including silence is switched only for once in the block, a multiple sound source change structure where a plurality of sound sources are switched simultaneously in the block, a sound source partial change structure where part of a plurality of sound sources are switched in the block and an extra structure pattern where none of the above patterns is applicable and are used for categorical classification based on the structures; and

said descriptor generating means generates a descriptor according to the categorical classification based on the structures.

30-36. (Cancelled).

37. (Currently Amended) A ~~The~~ method for retrieving signals according to claim 35, ~~wherein~~ comprising:

dividing an input signal into blocks having a predetermined time length;

extracting one or more than one characteristic quantities of a signal attribute from the signal of each block;

classifying the signal of each block into a category according to the characteristic quantities thereof, wherein said signal of each block is classified into any of the categories formed on the basis of types of signal sources, and wherein said signal of each block is classified into any of the categories formed on the basis of types of structures that signals may have and do not depend on the types of signal sources; and

retrieving the signal according to the result of categorical classification or by using a descriptor generated according to the result of categorical classification, wherein

said input signal is an audio signal;

the categories formed on the basis of structures that signals may have and do not depend on the types of signal sources for classifying the audio signal of each block include one or more than one of a silence structure where no significant sound exists in the block, a single sound source structure where only a sound related to a single sound source exists in the block, a double sound source structure where sounds related respectively to two sound sources exist in the block, a sound source change structure where a sound source including silence is switched only for once in the block, a multiple sound source change structure where a plurality of sound sources are switched simultaneously in the block, a sound source partial change structure where part of a plurality of sound sources are switched in the block and an extra structure pattern where none of the above patterns is applicable and are used for categorical classification based on the structures; and

a signal is retrieved by using the descriptor reflecting or corresponding to the result of said categorical classification based on the structure.

38-45. (Cancelled).

46. (Currently Amended) ~~An~~ The apparatus for retrieving signals ~~according to claim 44, wherein~~ comprising:

a blocking means for dividing an input signal into blocks having a predetermined time length;

a feature extracting means for extracting one or more than one characteristic quantities of a signal attribute from the signal of each block;

a categorical classifying means for classifying the signal of each block into a category according to the characteristic quantities thereof, wherein said categorical classifying means classifies said signal of each block into any of the categories formed on the basis of types of signal sources, and wherein said categorical classifying means classifies said signal of each block into any of the categories formed on the basis of types of structures that signals may have and do not depend on the types of signal sources; and

a signal retrieving means for retrieving the signal according to the result of categorical classification or by using a descriptor generated according to the result of categorical classification, wherein

said input signal is an audio signal;

the categories formed on the basis of structures that signals may have and do not depend on the types of signal sources for classifying the audio signal of each block include one or more than one of a silence structure where no significant sound exists in the block, a single sound

source structure where only a sound related to a single sound source exists in the block, a double sound source structure where sounds related respectively to two sound sources exist in the block, a sound source change structure where a sound source including silence is switched only for once in the block, a multiple sound source change structure where a plurality of sound sources are switched simultaneously in the block, a sound source partial change structure where part of a plurality of sound sources are switched in the block and an extra structure pattern where none of the above patterns is applicable and are used for categorical classification based on the structures; and

said signal retrieving means retrieves a signal by using the descriptor reflecting or corresponding to the result of said categorical classification based on the structure.

47-56. (Cancelled).